
SITE SPECIFIC HEALTH AND SAFETY PLAN

Time-Critical Removal

NELSON KNITTING SITE

Rockford, Winnebago County, Illinois

Prepared for:



Robert Kondreck

U.S. EPA

Region V

Emergency Response Branch

Superfund Division

Contract No. 68HE0422DO05

Prepared by:



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1. REVIEWS AND APPROVALS

Contract No.: 68HE0422DO05

Date: January 23, 2023

Project Name: Nelson Knitting Site, Rockford, Winnebago County, Illinois

EQM Project No.: 030353.0024

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2. ACRONYMS & SYMBOLS

§	Section	HASP	Health and Safety Plan
ACGIH	American Conference of Governmental Industrial Hygienists	HAZCOM	Hazard Communication
ACM	asbestos containing material	HAZWOPER	Hazardous Waste Operations and Emergency Response
AHA	Activity Hazard Analysis	HEPA	high-efficiency particulate air
AIHA	American Industrial Hygiene Association	Hg	mercury
ANSI	American National Standards Institute	HMIS	Hazardous Materials Identification System
APR	air purifying respirator	HR	human resources
ATF	Bureau of Alcohol, Tobacco, Firearms and Explosives	HZ	Hot Zone
CAMEO	Computer-Aided Management of Emergency Operations	IAW	in accordance with
CFR	Code of Federal Regulations	IDLH	immediately dangerous to life and health
CHMM	Certified Hazardous Materials Manager	IHPAT	Industrial Hygiene Proficiency Analytical Testing
CIH	Certified Industrial Hygienist	mg/m ³	milligrams per cubic meter
CO	Contracting Officer	NFPA	National Fire Protection Association
COC	contaminant(s) of concern	NIMS	National Incident Management System
CPR	cardiopulmonary resuscitation	NIOSH	National Institute for Occupational Safety and Health
CRZ	Contamination Reduction Zone	NRP	National Response Plan
CSP	Certified Safety Professional	OSC	On-Scene Coordinator
dBA	decibels A-weighted	OSHA	Occupational Safety and Health Administration
DEET	diethyltoluamide	OTM	OSHA's Technical Manual
DoT	Department of Transportation	PACM	potential asbestos containing material
ECP	entry/exit control point	PBZ	personal breathing zone
EOC	Emergency Operations Center	PEL	permissible exposure limit
EPA	Environmental Protection Agency	PM	Project/Program Manager
EQM	Environmental Quality Management, Inc.	POL	corporate policy
ERRS	Emergency and Rapid Response Services	PPE	personal protective equipment
EZ	Exclusion Zone	ppm	parts per million
FLB	fluorescent light bulbs (tubes)	REL	recommended exposure level
H&S	health and safety	RM	Response Manager or Site Superintendent



SAR	supplied air respirator	TSDF	treatment, storage & disposal facility
SCBA	self-contained breathing apparatus	TSI	Thermal system insulation
SDS	Safety Data Sheet(s)	TWA	time weighted average
SHSO	Site Health and Safety Officer	UL	Underwriter Labs
SOP	Standard Operating Procedure	USACE	U.S. Army Corps of Engineers
START	Superfund Technical Assessment and Response Team	WBGT	wet bulb globe temperature
TBD	to be determine	WWT	wastewater treatment
TO	Task Order		

3. HEALTH & SAFETY ORGANIZATION & EMERGENCY INFORMATION

The following organizational chart (Figure 1, *Site Operations Organizational Chart*) and contact information involve the personnel and agencies providing emergency response and general assistance during normal operations. Post this information for emergency reference as necessary.

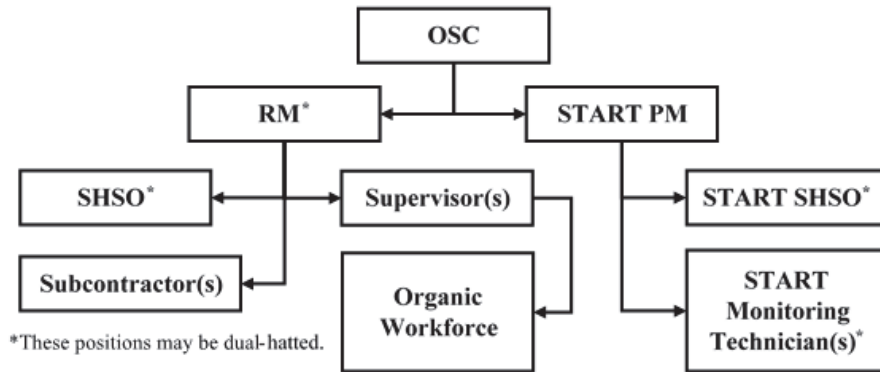


Figure 1, Site Operations Organizational Chart

Specific responsibilities and position descriptions are noted in the ERRS Health and Safety Program Plan (HASPP). See Section 1,



EMERGENCIES, ACCIDENTS, AND INJURIES, for specific emergency response procedures for this HASP.

3.1 Key Personnel and Emergency Contacts

Table 3-1, *Key Personnel*, presents the list of key personnel for this project.

Table 3-1, Key Personnel

NAME	AGENCY	TITLE	PHONE	EMAIL
Robert Kondreck	U.S. EPA	OSC	312-758-6517	kondreck.robert@epa.gov
Bill Poma	EQM, Inc.	PM	██████████	bpoma@eqm.com
Chris Long	EQM, Inc.	RM/SHSO	██████████	cslong@eqm.com
John Kominsky CIH, CSP, CHMM	EQM, Inc.	VP of H&S	██████████	jkominsky@eqm.com
David Arthur, CSP	EQM, Inc.	H&S Director	██████████	darthur@eqm.com
Chris Draper	Tetra Tech, START	Safety Manager	██████████	chris.draper@tetrattech.com
Alexis Enright	Tetra Tech, Inc	START Project Manager	██████████	alexis.enright@tetrattech.com
Daniel Higley	Tetra Tech, Inc	Field Team Leader / SHSO	██████████	daniel.higley@tetrattech.com
CHMM – Certified Hazardous Materials Manager CIH – Certified Industrial Hygienist CSP – Certified Safety Professional EPA – Environmental Protection Agency EQM – Environmental Quality Management H&S – Health and Safety PM – Program Manager RM – Response Manager SHSO – Site Health & Safety Officer START – Superfund Technical Assessment & Response Team				

3.2 Emergency Contacts

Table 3-2, *Local Emergency & Non-Emergency Contacts*, provides the necessary local contact information for various emergency and non-emergency support.

Table 3-2, Local Emergency & Non-Emergency Contacts

AGENCY	ADDRESS/CONTACT INFO.	PHONE	HOURS
Life-Threatening Emergencies & Immediate Response			
Fire, Police, & Ambulance	By Phone	911	24/7/365
Hospital Emergency Room	SwedishAmerican Hospital 1401 E State Street Rockford, IL 61104	779-696-2430	24/7/365
Non-Life-Threatening Emergencies & Routine Medical			
Occupational Clinic	Physician's Immediate Care 1000 E Riverside Blvd	815-633-4300	Mon – Fri 8am to 8pm



AGENCY	ADDRESS/CONTACT INFO.	PHONE	HOURS
	Loves Park, IL 61111		Sat – Sun 8am – 4pm
EQM Case Manager	1-Source OHS	855-517-6872	24/7/365
START Medical Services	Work Care (Dr. P. Greaney)	800-455-2114	24/7/365
National Response Center	By Phone	800-424-8802	24/7/365
Centers for Disease Control	By Phone	770-488-7100	24/7/365
ATF (Explosives Hotline)	By Phone	888-283-2662	24/7/365
CHEMTREC	By Phone	800 262 8200	24/7/365
Poison Control Center	By Phone	800-222-1222	24/7/365
Excavation Contacts			
State/Locality Utilities	JULIE	800-892-0123	24/7/365
“Call Before You Dig”	By Phone	811	24/7/365
EQM Emergency Contacts			
EQM Project Office	Chris Long (RM)		24/7/365
EQM Emergency Hotline	By Phone		24/7/365
Corporate H&S Manager	David Arthur		24/7/365
	By Phone		
START Emergency Contacts			
START Project Manager	Alexis Enright		24/7/365
START Field Team Leader	Daniel Higley		24/7/365
START Safety Manager	Chris Draper		24/7/365

Appendix E, *Maps*, contains the directions from the EQM field office to the hospital emergency room, which is approximately 1.8 miles (6 minutes) in-transit.

4. PROJECT DESCRIPTION AND POLICIES

Use this site-specific HASP in conjunction with the HASPP. Together, they constitute a complete health and safety plan for this site that reflects the best available information at the time they were prepared. If new information, requirements, operations, or conditions arise, revise this plan as necessary to address them using the written amendments form in Appendix A, *Health and Safety Plan Amendments*.

4.1 Site Description

The former Nelson Knitting Site is at 909 S. Main St., Rockford, Winnebago County, Illinois. The site formerly operated as a sock knitting mill from 1926 to 1990, then was mostly unused from 1990 to the present. The Site consists of one parcel of land and is approximately two (2) acres in size. Winnebago County is the current site owner, purchasing the property through tax delinquency on October 17, 2022. Mr. John Cook, III purchased the Site in 1999 and then transferred ownership to Nelson-Cook Building Co., LLC, of which he is the principal, in 2022. Since business operations ended in 1990, the site has remained vacant and is degrading. Site assessments have confirmed the presence of deteriorating friable ACM throughout the site as well as other regulated waste items.

The site consists of a dilapidated three-story industrial building with a collapsing roof. The City of Rockford elected to condemn and secure the site in June 2020; however, trespassers have continued to surreptitiously enter the building. Site assessments by the city and EPA have found evidence of scrapped building materials and asbestos debris littering the floor. Additionally, the site contains polychlorinated biphenyls (PCB) lighting ballasts, lead acid batteries, miscellaneous chemicals, mercury switches, and fluorescent light tubes.

4.2 Scope

According to the Task Order (TO), the following general activities are contracted for this project:

- Plan Preparation/Procurement
- Mobilization
- Perform Asbestos Removal
- Consolidate Additional Chemicals of Concern (COC)
- Package Wastes for Disposal and Transport to the TSDF
- Demobilization

4.2.1 Safety Guidance

Table 4-1, *Applicable Policies, SOPs, and WIs*, offers the list of instructions that apply to this project.

Table 4-1, Applicable Policies, SOPs, and WIs

EQM SOP	SOP 303	SOP 309	SOP 315	SOP 316	SOP 317	SOP 318	SOP 326	SOP 333	SOP 334	SOP 343	SOP 344	SOP 348
Site-Specific Hazard												
Electrical Lines and/or Equipment			X		X						X	
Elevated Noise Levels		X										
Contact with Hazardous Chemicals/Materials									X	X		
Flammable & Combustible Liquids (fuels)	X											
Slips, Trips, and Falls								X				
Working Around Heavy Equipment				X			X					
Working Around Utilities			X								X	
Working in Adverse Weather						X	X					X

Table Index:

- SOP 303, *Flammable Combustible Liquid Transfer*
- SOP 309, *Hearing Conservation Program*
- SOP 315, *Electrical Safety*
- SOP 316, *Excavation and Trenching*
- SOP 317, *Hazardous Energy Control Program, Lockout/Tagout*
- SOP 318, *Cold-Heat Stress*
- SOP 326, *Working Around Heavy Equipment & Machinery Excavators & Loaders*
- SOP 333, *Walking and Working Surfaces and Fall Protection*
- SOP 334, *Asbestos Awareness*
- SOP 343, *Lead Exposure Control Plan*
- SOP 344, *Use of a Live Line Telescoping*
- SOP 348, *Adverse Weather/Natural Disaster Response*

4.2.2 Site Health and Safety Plan Acceptance/Acknowledgment

The RM/SHSO will inform all persons who enter the site of this plan and ensure that anyone tasked to enter the Exclusion Zone (EZ) reads this document and signs the *HASP Acknowledgment Form* in Appendix F. Persons who sign this form acknowledge the site's potential hazards and agree to follow the policies and procedures within this HASP.

5. HAZARD ANALYSIS AND MITIGATION

This section details the chemical, physical, biological, and task-specific hazards posed to site personnel during planned project activities.

5.1 Assessing Hazards

The site's operational hazards are addressed through Activity Hazard Analysis (AHA) which are noted in Section 4.2, *Scope*.

5.1.1 Chemical Hazards

Expect to generate the following contaminants of concern (COC) during operations.

- asbestos and asbestos containing material (ACM)
- fluorescent light tubes (mercury)
- hydrochloric acid (lead-acid batteries)
- lead (lead-acid batteries)
- mercury (thermal switches)
- polychlorinated biphenyls (light ballasts)

There is also an assortment of cleaning and other consumer chemicals in small quantities.

Run a Computer-Aided Management of Emergency Operations (CAMEO) report and attach it in Appendix D, *Chemical Hazard Information*, to outline the toxicity and emergency response recommendations and to predict additional hazards if spilled or mixed.

5.1.2 Physical Hazards

The following physical hazards are noted to provide specific procedures or requirements beyond what is noted in the HASPP, AHAs, SOPs, and WIs.

Table 5-1, Potential Physical Hazards Onsite

HAZARD	CONSIDERATIONS
Utilities	<p>State law requires the contractor to contact Joint Utility Locating Information for Excavators (JULIE) before you start any project, no matter how small the project or how deep you plan to dig. JULIE Inc. provides Illinois excavators and underground utility owners with a continuously improving, one-call message handling and delivery service committed to protecting underground utilities and the safety of people working or living near them. JULIE, Inc., is not a government agency, but a private non-profit company that neither owns nor marks any underground lines.</p> <p>Illinois state law requires that the excavator doing the digging call JULIE with the locate request information. This can include a personal representative or employee of the company engaging in the excavation activity.</p>

HAZARD	CONSIDERATIONS
	<p>Before making the call to JULIE, consult the Excavator Handbook and complete the Locate Request Form (2017_Locate_request_form), both of which are located in Appendix D, <i>EQM Specific Hazard Information</i>.</p> <p>There are three convenient ways to reach JULIE:</p> <ul style="list-style-type: none"> ◦ The RM/SHSO can go to the JULIE website and enter a request online, where you can now enter your own locate request if you have a valid email address and a single-address excavation. You will receive a confirmation email from JULIE, Inc. along with general information pertaining to the excavation project. E-requests are processed by JULIE before the start of the next business day. The legal start date and time will be 48 hours from the time that JULIE processes your locate request. Note: Your E-request is not valid until you receive an email confirmation from JULIE, Inc. with a start date and time. ◦ Call JULIE's toll-free number 1-800-892-0123. JULIE's call center is staffed 24 hours per day, 365 days a year. ◦ Call Before You Dig using the "8-1-1" nationwide toll-free number for locate services. <p>Regardless of how you contact JULIE, there are no charges to use their services.</p> <p>As to the Illinois state law, the Illinois Commerce Commission is responsible for violations of the Illinois Underground Utility Facilities Damage Prevention Act. It receives violation reports, determines if a violation occurred and assesses fines with maximum penalties ranging from \$1,000 to \$5,000 per violation. Penalties collected by the Commission are given to JULIE to support safety and informational programs that reduce incidents of damage to underground utility lines.</p> <p>State law requires excavators to white-line the dig site when practical, before the locating service arrives to mark the underground infrastructure. White-lining is the process of marking the dig area with white paint and/or white flags prior to contacting JULIE. In winter months, black paint or flags should be used when snow is present. It allows utility locators to complete their work more quickly and makes it easier for excavation crews to identify the dig site. It can also reduce the number of joint meets needed. For additional information, or if you have any questions, please contact a Damage Prevention Manager in your area.</p> <p>After the utilities have been located and marked, an excavator, or other powered excavation equipment, may only be used up to within eighteen (18) inches of the marked lines, from the surfaced of the earth to the depth of the proposed excavation.</p> <p>When working within the "tolerance zone", workers must use extra care and precaution, to hand-dig around the specific utility line. The tolerance zone is a strip of land at least three (3) feet wide, but not wider than the width of the underground facility, plus one and a half (1.5) feet on either side of the located utility.</p> <p>Should workers damage or dislocate any underground utility in connection with any excavation or demolition, emergency or non-emergency, notify the RM/SHSO immediately, and the RM/SHSO will then notify the affected utility company and JULIE, Inc., ceasing operations until cleared as safe by the utility company. This is particularly critical if the broken utility line creates a hazard to life and health (e.g.: natural gas lines or buried electrical lines). Do not attempt a repair, clamp, or constrict the damaged line, simply leaving such work to the utility company to repair. This may also require contacting 911 if the leak or electrical exposure potentially creates an extreme hazard.</p>

HAZARD	CONSIDERATIONS
Confined Spaces	This project will involve no confined spaces. If confined spaces arise during operations, manage them according to SOP 314, <i>Confined Space</i> .
Flammables/Combustibles	None of the contaminants of concern are either flammable or combustible.
Elevated Noise Levels	<p>Operating heavy equipment including backhoes, compressors, powered hand tools, pumps, or generators may create noise levels exceeding the OSHA PEL. The OSHA PEL is 90 decibels (dBA) (100 % dose). At 85 dBA (50% equivalent dose) initiate a hearing conservation program and at 90 dBA require workers to wear hearing protection. Reduce the PEL (90 dBA) for shifts >8 hours using following formula:</p> $\text{Adjusted PEL} = 400 / \text{Total Hours Worked}$ <p>See SOP 309, <i>Hearing Conservation Program</i>.</p>
Compromised Structures	When workers must enter and/or work within structures that are potentially structurally unsound, the RM must take measures to assess each planned work area's stability prior to employing personnel and equipment within them. If the work area is deemed to be unsafe for operations, the RM or responsible supervisor will block, barricade, fence, or otherwise restrict it so works are not placed in potential danger. Only when structural integrity can be assured may personnel work within a given work location.

5.1.3 Biological Hazards

The following biological hazards are potentially present on this site. For these hazards, avoidance is always the best plan of action.

Table 5-2, Potential Natural Hazards Onsite

HAZARD	CONSIDERATIONS
Water	There are no bodies of water in association with this project.
Animals	<p>The following animals are unlikely, but may be present on this site:</p> <ul style="list-style-type: none"> Domestic animals (dogs, cats, cattle, etc.) Venomous snakes (copperhead, northern cottonmouth, as well as massasauga, and timber rattlesnakes) Wildlife (mice, deer, bears, wolves, coyotes, racoons, elk, etc.)
Insects	<p>The following insects may be present on this site:</p> <ul style="list-style-type: none"> Mosquitoes Poisonous spiders (black widow and brown recluse) Ticks
Plants	<p>The following plants may reside on this site:</p> <ul style="list-style-type: none"> Poison ivy Poison sumac Stinging nettles Wild parsnip
Microorganisms	<p>The microbial and/or viral concerns for this project include:</p> <ul style="list-style-type: none"> Bacterial blooms biohazardous materials Hantavirus Infectious disease Medical waste

5.1.4 Adverse Weather

SOP 348, *Adverse Weather/Natural Disaster Response*, discusses the appropriate response to these potential hazards. For this project, the following weather issues may arise:

- Blizzard/Severe Snow
- Flooding
- Fog
- Extreme Temperatures
- Hail
- Heavy Rain
- High Winds
- Severe Thunderstorms
- Tornados

Consult SOP 348, *Adverse Weather-Natural Disaster Response*, for additional information.

5.2 Personnel Monitoring

Begin air sampling within the worker's personal breathing zone (PBZ) as noted in Table 5-3, *Detailed Air Sampling Summary*.

5.2.1 Detailed Air Monitoring

Use Table 5-3 to determine the necessary PPE, how long to work within the area, when workers must withdraw in emergencies, and for medical surveillance and exposure data.

Table 5-3, Detailed Air Sampling Summary

Contaminant	Instrument	Frequency	Action Level/Comment
Asbestos (CAS #: 1332-21-4)	Personal Air pump w/ 25-mm cassette equipped with electrically conductive 50-mm extension cowl. Use NIOSH Method 7400 for analysis.	Continuous in PBZ while working in the area due to wide-spread contamination.	<ul style="list-style-type: none"> • ≥ 0.1 fiber/cc TWA for 8 hours – Level C required (1/2-faced APR with P-100 particulate filters) • ≥ 1.0 fiber/cc for any 30-minute period of the work-day - Level C required (1/2-faced APR with P-100 particulate filters) <p><i>Note:</i> Utilize wet methods when applicable to maintain dust suppression.</p>
hydrogen chloride (CAS #: 7647-01-0)	UltraRAE or MultiRAE Pro	Continuous monitoring while workers are employed in affected areas, particularly where heat sources are present or there is visible smoke or dust.	<ul style="list-style-type: none"> • < 7.0 mg/m³ no action required • ≥ 7.0 mg/m³ – 74.5 mg/m³ use Level C APR with acid gas cartridges affixed • ≥ 74.5 mg/m³ use Level B SAR/SCBA in positive pressure mode <p>IDLH = 74.5 mg/m³</p>
lead (CAS #: 7439-92-1)	As per NIOSH Method 7300	Conduct PBZ monitoring on	<ul style="list-style-type: none"> • < 0.03 mg/m³, no action is required.

		personnel with likelihood of highest exposures to lead-bearing particulate during specific work tasks. IAW OSHA Standard 29 CFR §1926.62.	<ul style="list-style-type: none"> • $\geq 0.03 - 0.05 \text{ mg/m}^3$, apply particulate control measures to maintain exposure potential to below the PEL. • $\geq 0.05 - 0.5 \text{ mg/m}^3$ use Level C with a $\frac{1}{2}$-face APR with P-100 cartridges. • $> 0.5 - 2.5 \text{ mg/m}^3$, use a full-faced APR with P-100 cartridges affixed. • $\geq 2.5 - 50 \text{ mg/m}^3$ use Level B SAR/SCBA in pressure demand mode. • $\geq 100 \text{ mg/m}^3$ use Level B SAR/SCBA in positive pressure mode. <p>IDLH = 100 mg/m^3</p> <p>Note: The PEL (0.05 mg/m^3) is reduced for extended shifts using following formula:</p> $PEL = \frac{400}{\text{work hours per day}}$
mercury (vapor) (7439-97-6 (metal))	As per NIOSH Method 6009 (For real-time measurement, use a Lumex or Jerome mercury vapor analyzer, or equivalent devices. Use the Lumex for low concentrations and the Jerome for high ones.)	Perform continuous monitoring with the vapor analyzer while working with mercury contaminated materials.	<ul style="list-style-type: none"> • $< 0.025 \text{ mg/m}^3$ no action required unless reaching a ceiling limit of 0.1 mg/m^3 in any 30-minute period. • $\geq 0.025 \text{ mg/m}^3$ (0.1 mg/m^3 Ceiling) to 2.5 mg/m^3 use Level C full-faced APR with mercury vapor cartridges. • $\geq 2.5 \text{ mg/m}^3$ to 5.0 mg/m^3 use Level B with Supplied Air or Self-Contained Breathing Apparatus (SCBA) • $\geq 5.0 \text{ mg/m}^3$ to 10 mg/m^3 (the IDLH) use Level A with positive pressure or continuous flow supplied air or SCBA. • $> 10 \text{ mg/m}^3$ use positive-pressure SCBA only.
PCB (54% chlorine) (CAS #: 11097-69-1)	As per NIOSH Method 5503	Conduct PBZ monitoring on personnel with likelihood of highest exposures to PCB-bearing particulate during specific work tasks.	<ul style="list-style-type: none"> • $< 0.5 \text{ mg/m}^3$ no action required • $\geq 0.5 - 25.0 \text{ mg/m}^3$ use Level C with full-face APR with P-100 cartridges. • $\geq 25.0 - 50.0 \text{ mg/m}^3$ use Level B with SCBA. <p>Note: 50.0 mg/m^3 is considered as immediately dangerous to life or health (IDLH)</p>
<p>Note:</p> <ul style="list-style-type: none"> • All action levels above the initial are calculated based on an air purifying respirator (APR) with a quantitative fit test. • The air monitoring criteria above is noted for each of the CoCs, regardless of their probability for exposure. 			

Use the following air monitoring strategy for the materials noted in Table 5-3, *Detailed Air Sampling Summary*. Only monitor for those CoCs that have a verifiable impact on worker health and safety.

ACM - 29 CFR §1910.1001 sets an 8-hour TWA airborne concentration of 0.1 fiber (longer than $5 \mu\text{m}$ and having a length-to-diameter ratio of at least 3:1) per cm^3 of air (0.1 fiber/cm^3) for asbestos fibers, to include chrysotile, as determined by the membrane filter method at



approximately 400X magnification with phase contrast illumination. No worker should be exposed more than 1 fiber/cm³ (excursion limit) as averaged over a sampling period of 30 minutes.

Note: Perform periodic sampling within the workers' PBZ even after assessing the work area to ensure that asbestos levels remain below the 8-hr TWA PEL and 30-minute excursion limit, as per 29 CFR §1926.1101(f)(2). This periodic sampling is part of the monitoring strategy for the site.

Use validated NIOSH or OSHA sampling and analytical methods when air sampling. Collect all samples with approved pumps that are calibrated both before and after collection and use the average flow rates to calculate the air volume. Perform calibration with the same type of filter or sampling media used during live monitoring. The laboratory analyzing the samples must participate in the American Industrial Hygiene Association (AIHA) Industrial Hygiene Proficiency Analytical Testing (IHPAT) program to ensure the results are within OSHA's quality assurance limits or as per other noted standards. See SOP 332, Respiratory Program, for additional details.

Hydrogen Chloride and Lead – These CoCs are contained within a sealed unit within an emergency lighting system. There is a very low probability workers could encounter these contaminants unless the units are broken or compromised, and even less probability for aerosolization to create an air contaminant. Therefore, only perform air monitoring for these CoCs if such a situation arises where the units' contents are exposed or aerosolized.

Mercury (Hg) – The Action Memorandum noted waste fluorescent light bulbs (FLB) as one of the COCs for this site. FLBs contain approximately 4 mg Hg per four- (4) foot tube. If the tubes are intact, the Hg is contained, and the exposure potential is negligible, as noted in Table 5-4, *Hg Sampling Results*. However, because the cleanup process may cause breakage and aerosolize further vapors and considering the vapor pressure (0.0012 mm Hg) of elemental Hg, if liquid Hg is noted during operations, conduct real time air monitoring (with a Lumex[®] 915M Mercury Vapor Analyzer and Jerome[®] 431-X Mercury Vapor Analyzer or equivalent) to determine that vaporous Hg released during operations does not pose an exposure concern.

Unless there is visible Hg, air monitoring is at the field manager's and OSC's discretion. Previous sampling produced the following results which showed the Hg concentrations (mg/m³) within the working environment.

Table 5-4, Hg Sampling Results

LOCATION	mg/m ³
Entryway	0.00014
Room with Bulbs	0.00038
Main Room	0.00040
Broken Light Drum	0.00030
Basement Main	0.00018

Boiler Room	average = 0.006 peak = .01697
Notes: <ul style="list-style-type: none"> The values were converted from $\mu\text{g}/\text{m}^3$ to mg/m^3 to coincide with Table 5-3, <i>Detailed Air Sampling Summary</i>. Onsite Background Reading $0.04(\mu\text{g}/\text{m}^3)$ Acceptable Level for Normal Occupancy – Most Sensitive Persons $1 \mu\text{g}/\text{m}^3$ (USEPA National Elemental Mercury Response Guidebook (March 2019)) Normal Occupancy for Commercial Setting $<3.0 \mu\text{g}/\text{m}^3$ (USEPA National Elemental Mercury Response Guidebook (March 2019)) 	

Note: Do not downgrade from Level C until the Hg concentrations are verified through PBZ monitoring.

PCB - The exposure potential for PCBs is extremely low and does not represent a significant inhalation risk because the PCBs noted in the analysis report were a component of the light fixture ballasts (capacitors). These are sealed units whereby there is no potential to contact the PCB within them when intact. However, if there are broken or compromised ballasts, perform sample for the first three (3) full shifts to assess exposure.

5.2.2 Medical Surveillance

This project requires medical surveillance to ensure those working with hazardous or toxic substances do not receive exposures that would place them at risk of occupational disease. The COCs for this project require more stringent medical surveillance depending largely on the exposure duration and health status of the individual. Consult SOP 338, *Medical Program*, for specific contaminant requirements.

Note: Periodically sample within the workers' PBZ to ensure the COC contaminations remain below the minimums. This periodic sampling should be part of the monitoring strategy for the site.

Table 5-5, Additional Monitoring Requirements

ANALYTE	REQUIREMENTS
asbestos	NIOSH considers asbestos to be a potential occupational carcinogen and recommends that exposures be reduced to the lowest feasible concentration. For asbestos fibers >5 micrometers in length, NIOSH recommends a REL of 100,000 fibers per cubic meter of air ($100,000 \text{ fibers}/\text{m}^3$), which is equal to 0.1 fiber per cubic centimeter of air ($0.1 \text{ fiber}/\text{cm}^3$), as determined by a 400-liter air sample collected over 100 minutes in accordance with NIOSH Analytical Method 7400. Airborne asbestos fibers are defined as those particles having (1) an aspect ratio of 3:1 or greater and (2) the mineralogic characteristics (that is, the crystal structure and elemental composition) of the asbestos minerals and their non-asbestiform analogs. The asbestos minerals are defined as chrysotile, crocidolite, amosite (cummingtonite-grunerite), anthophyllite, tremolite, and actinolite. In addition, airborne cleavage fragments from the non-asbestiform habits of the serpentine minerals antigorite and lizardite, and the amphibole minerals contained in the series cummingtonite-grunerite, tremolite-ferroactinolite, and glaucophane-riebeckite should also be counted as fibers provided they meet the criteria for a fiber when viewed microscopically.
lead	29 CFR §1926.62, Appendix C – Medical Surveillance Guidelines, has very specific requirements for a program of biological monitoring and medical surveillance for employees exposed to lead

	above the action level of 30 $\mu\text{g}/\text{m}^3$ TWA for more than 30 days each year. These exams consist of scheduled periodic blood sampling and medical evaluation as defined by previous laboratory results, worker complaints or concerns, and the clinical assessment of the examining physician.
Note: Unless specifically noted, all occupational levels above are based on an eight- (8) hour TWA.	

Ensure to calibrate all direct-reading instruments (e.g., noise sound level meters,) that are used onsite at the beginning and end of each work shift in accordance with the manufacturer's recommendations. If equipment cannot be pre-calibrated to the proper specifications, postpone or temporarily cease site operations that require exposure monitoring until this requirement is completed.

5.3 Monitoring Records

Retain copies of the personnel monitoring records onsite and available as per the HASPP.

5.4 Personal Protective Equipment (PPE) Selection

For this project, use Level C with an APR and P-100 particulate cartridges attached as the primary anticipated PPE. This is primarily due to the ACM present in the building. Also use leather or equivalent protective material outer gloves (e.g., Ansell cut resistant gloves [Cut Level 5] with a Kevlar® coating and cotton lining) if there are glass shards and other sharps from broken FLBs within the debris. This debris is also scattered on the floor, which will require using steel shanked boots to ensure that worker's feet are protected while walking within the work areas.

5.5 Decontamination Procedures

Perform all decontamination procedures according to SOP 307 – *Decontamination*, and use a mercury decontamination product (e.g., MerconX) to neutralize any Hg contamination when liquid Hg is noted. Also, only decontaminate for lead and/or hydrogen chloride when there is the potential the sealed batteries have been compromised. Otherwise, no decontamination is necessary upon the field manager's and/or OSC's direction or there is direct evidence the contaminants are present.

Dry-decontaminate all equipment and non-consumables used for asbestos before removing them from the work area. Do not use wet methods unless the decontamination liquids are captured and sent with the waste materials to the TSDF.

Personal decontamination is not required during emergencies while in Level D (including Level D Modified) beyond hand and possibly face washing using a personal hygiene station. Only conduct emergency decontamination for Level C and above, and only if the event is not life-threatening. In the event of a life-threatening situation, such as a heart attack or major injury, decontamination is secondary to performing Cardiopulmonary Resuscitation (CPR) or another life-saving aid. Regardless, remove the injured worker from the EZ prior to removing PPE and commencing life-saving measures.



Dispose of all decontamination materials (i.e., rinsate, tubs, brushes, etc.) in accordance with federal, state, and local laws and regulations. Unless otherwise noted, containerize spent disposable PPE and contaminated materials and/or include them with the removed materials.

If there is a concern that CoCs may migrate offsite, perform a periodic end-of-day personnel hand and foot screening with a Lumex (similar to radiation screening) to assess if materials are migrating through the PPE to create an exposure. Document these screenings and keep the records with the site files.

6. EMERGENCIES, ACCIDENTS, AND INJURIES

Consult SOP 310, *Incident Management*, for specific emergency response actions. Post relevant emergency procedural information, as well as the hospital and occupational clinic route maps from Appendix E, *Maps*, in the EQM Field Office and in site work trucks and transport vehicles, as applicable. Section 3, *Key Personnel and Emergency Contact Numbers*, contains all essential emergency contact information.

6.1 Specific Response Procedures

Beyond typical response actions applicable to all emergencies, the following actions address emergencies relating to this project.

6.1.1 Fire or Explosion

Due to the COCs involved, there is an extremely low potential for fire or explosion.

6.2 Evacuation Routes and Resources

The regular ECP into and out of the Hot Zone is the evacuation point for this site. The RM will designate an assembly point and brief its location during the daily tailgate meeting.

The RM/SHSO will establish a secondary gathering point as a precaution should the EQM Field Office be contaminated or compromised during an emergency.

6.3 Emergency Equipment Available Onsite

The following emergency response equipment is available onsite:

- First aid kit

If there is additional emergency equipment on Site, post its type, location, and inspection requirements on the office bulletin board.

7. SITE CONTROL

7.1 Traffic Control

For this project, trucks and other equipment shouldn't block public trafficways during loading. However, if they do, use signage, traffic cones, flaggers (as appropriate), or other methods to inform and control traffic along public streets during work hours. Inform police and fire officials, as required, when partially blocking streets for extended time periods. If the project interferes with local traffic, use signage stating, "Trucks Entering/Exiting," and consult SOP 325, *Traffic Control*, for placing signs and flag crews.

Because this project involves work inside a building, there should be no personnel working in roadways or other high-traffic areas that would expose them to a strike hazard.

7.1.1 Haul Route(s)

This project does not require a specific haul route to the TSDF.

7.1.2 Weight Restrictions

The RM should check with the local traffic authority to determine if there are weight restrictions for the roads that lead to and from the site. If any are noted, secure a means to weigh the transport vehicles before releasing them from the site.



8. SPSCIFIC TRAINING

This project requires additional training, as noted below:

- Asbestos awareness training, as per 29 CFR §1910.1001(j)(7)(iv).
- Lead awareness training, as per 29 CFR §1926.62(l)(2).

Make sure to document these training needs in the AHAs and keep the associated certificates onsite for retrieval upon demand by local, state, or federal authorities.



9. REFERENCES

The following are references to specific OSHA, DoT, and NIOSH standards/publications which were used to develop this site-specific HASP or to supplement the information herein.

- 29 CFR 1926.65, *Hazardous Waste Operations and Emergency Response*
- NIOSH Pocket Guide to Chemical Hazards (NIOSH/CDC)

Heimduo, Universal Source of Knowledge, *How much mercury is in a fluorescent light bulb?*, January 2023, URL: <https://heimduo.org/how-much-mercury-is-in-a-fluorescent-light-bulb>



APPENDIX A: HEALTH AND SAFETY PLAN AMENDMENTS

HEALTH AND SAFETY PLAN AMENDMENT FORM	
AMENDMENT NUMBER:	AMENDMENT DATE:
PROJECT NUMBER: 030353.0024	
SITE NAME: Nelson Knitting Site	
AMENDMENT TYPE:	
REASON FOR AMENDMENT:	
ALTERNATE SAFEGUARD PROCEDURES:	
REQUIRED PPE CHANGES:	
EQM RESPONSE MANAGER:	DATE:
EQM HEALTH AND SAFETY DIRECTOR: David Arthur, CSP	DATE:
EPA ON-SCENE COORDINATOR:	DATE:



APPENDIX B: ACTIVITY HAZARD ANALYSES (AHA)



APPENDIX C: SAFETY DATA SHEETS (SDS)

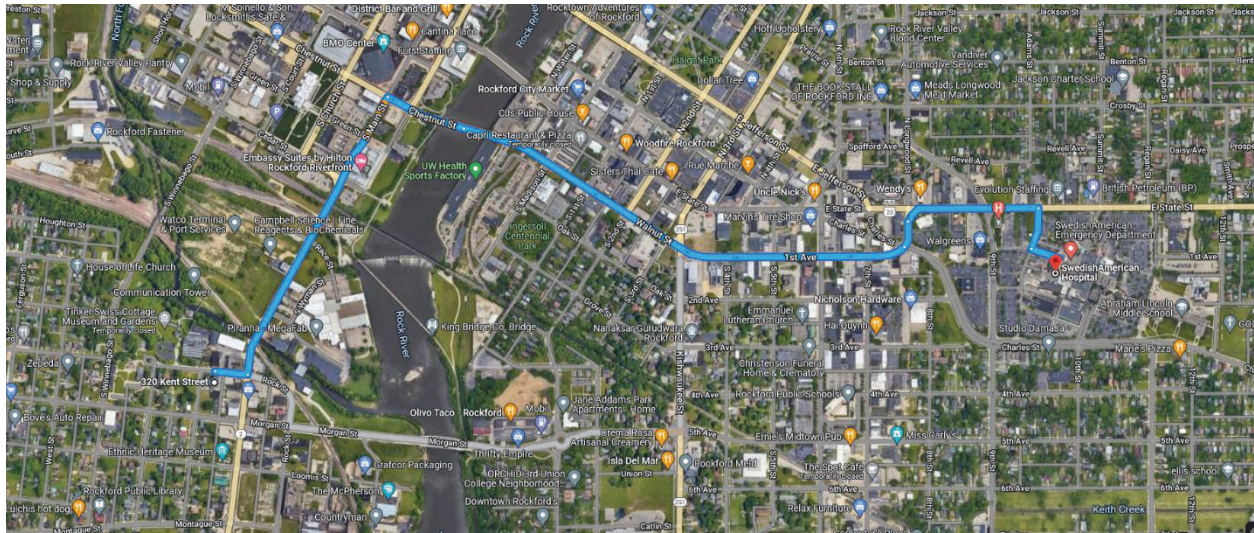


APPENDIX D: CHEMICAL HAZARD INFORMATION



APPENDIX E: MAPS

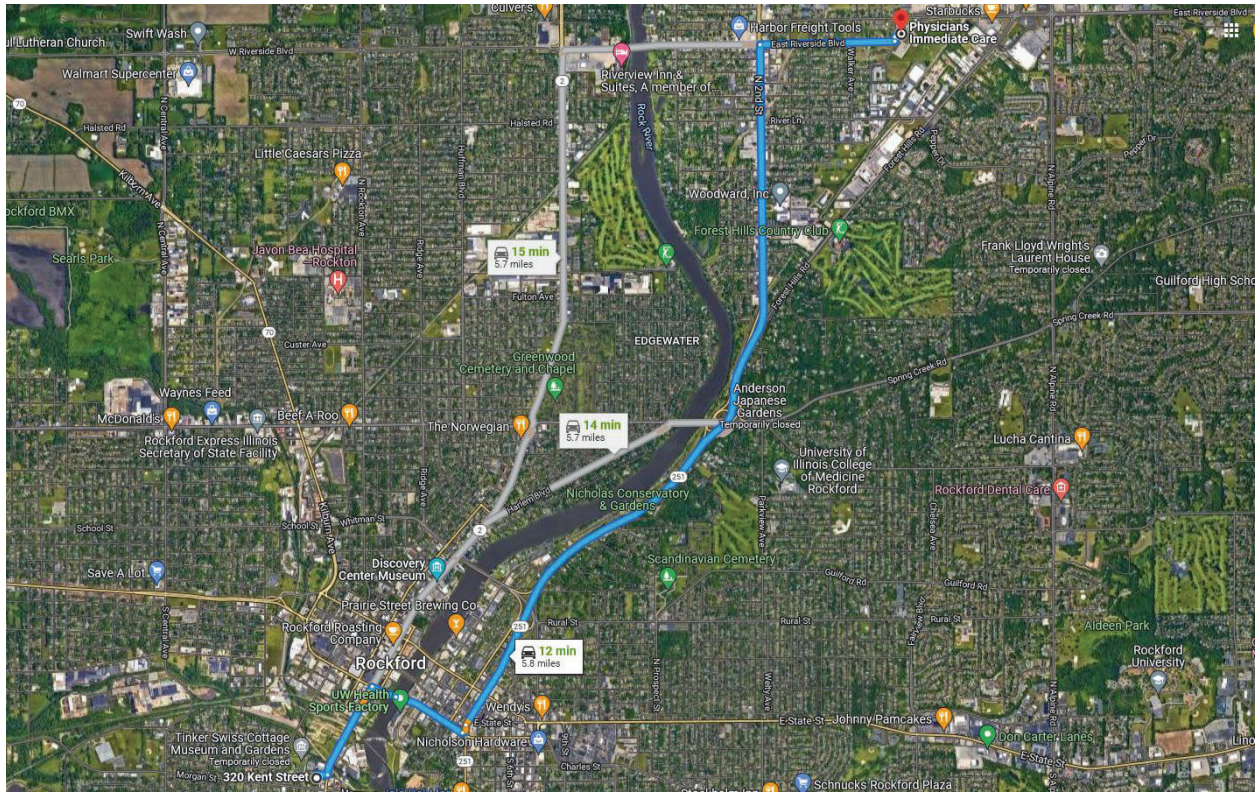
EMERGENCY MEDICAL ROUTE



SwedishAmerican Hospital 1401 E State Street Rockford, IL 61104

- From the site, head east on Kent St toward S Main St and travel for 276 feet,
- Turn left onto S Main St and travel for 0.5 of a mile,
- Turn right onto Chestnut St and travel for 0.1 of a mile,
- Continue onto Walnut St and travel for 0.4 of a mile,
- Continue onto 1st Ave and travel for 0.4 of a mile,
- Continue straight onto S Longwood St and travel for 220 feet,
- Turn right onto E State St, pass by Wendy's (on the left), and travel for 0.2 of a mile,
- Turn right onto SwedishAmerican Hospital and travel for 354 feet,
- Turn left and the destination will be on the right in 240 feet.

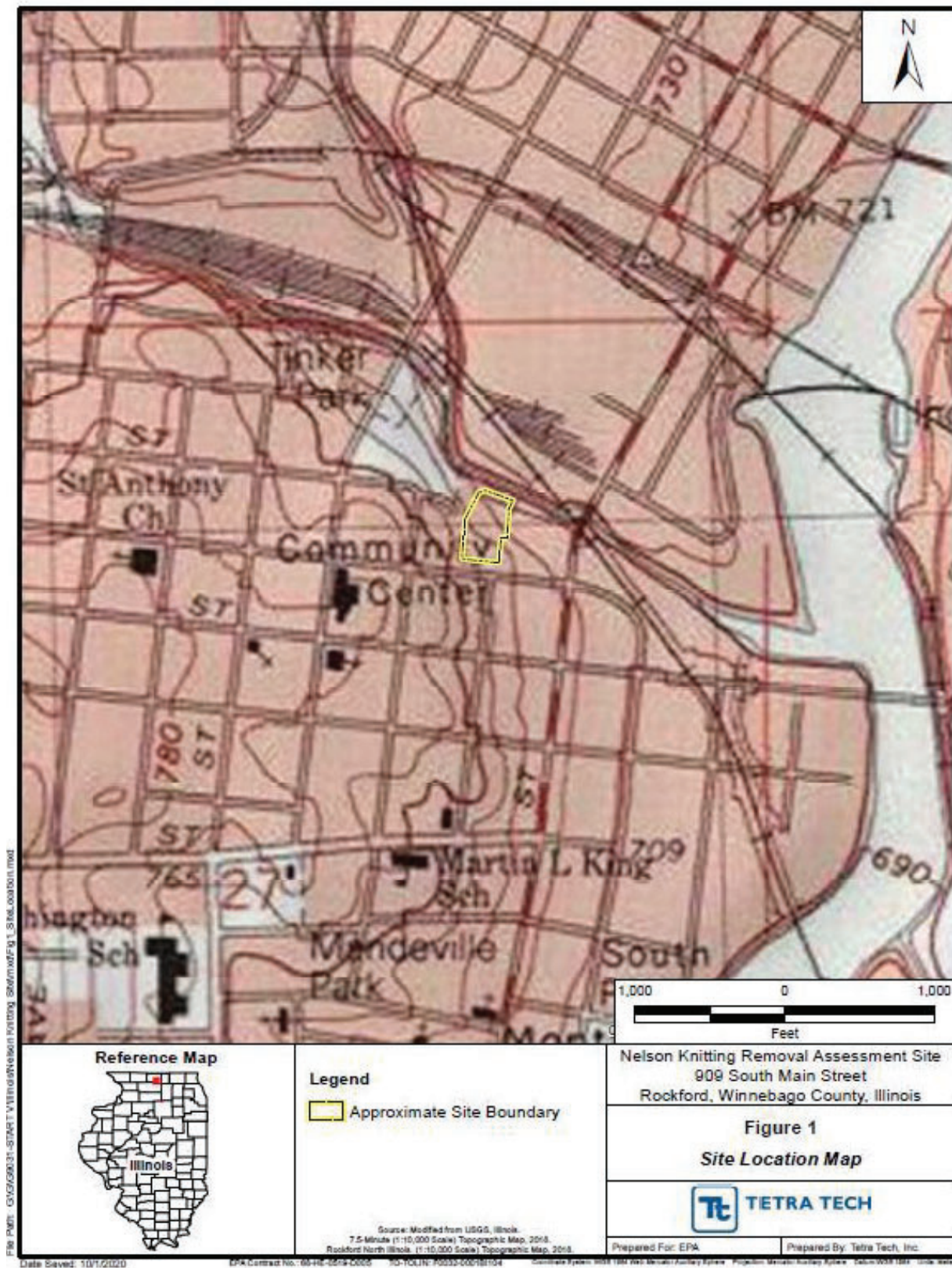
DIRECTIONS TO THE OCCUPATIONAL HEALTH CLINIC



Physician's Immediate Care 1000 E Riverside Blvd Loves Park, IL 61111

- From the site, head east on Kent St toward S Main St and travel for 276 feet,
- Turn left onto S Main St and travel for 0.5 of a mile,
- Turn right onto Chestnut St and travel for 0.1 of a mile,
- Continue onto Walnut St and travel for 0.4 of a mile,
- Sharp left onto Kishwaukee St and travel for 276 feet,
- Continue onto IL-251 N/S 3rd St, then follow IL-251 N and travel for 4.0 miles,
- Turn right onto E Riverside Blvd and travel for 0.7 of a mile,
- Turn left onto Brown's Pkwy and travel for 121 feet,
- Turn right and the destination will be on the right in 135 feet.

SITE MAPS





APPENDIX F: HEALTH AND SAFETY PLAN ACKNOWLEDGMENT

By signing, the signatory attests they were informed of, understand, and will abide by the procedures set forth in the Site Health and Safety Plan and respective amendments, if any, for the duration of their time spent onsite for this project.

[illegible]